

PATENT COOPERATION TREATY

TRANSLATION

PCT

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

<div style="border: 1px solid black; width: 100%; height: 100%;"></div>		Date of mailing (day/month/year)	See form PCT/ISA/210
Applicant's or agent's file reference 307421		FOR FURTHER ACTION See paragraph 2 below	
International application No. PCT/EP2005/050210	International filing date (day/month/year) 19.01.2005	Priority date (day/month/year) 30.03.2004	
International Patent Classification (IPC) or both national classification and IPC F02M57/02, F02M59/46, F02M59/36, F02M51/06, F02M61/16, F16K31/06			
Applicant ROBERT BOSCH GMBH			

1. This opinion contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the opinion
<input checked="" type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/EP2005/050210

Box No. 1

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
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International application No.

PCT/EP2005/050210

Box No. II

Priority

1. ☐ The following document has not yet been furnished:
- ☐ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).
- Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43bis1 and 64.1) is the claimed priority date.

WRITTEN OPINION OF THE
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International application No.

PCT/EP2005/050210

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-19	YES
	Claims		NO
Inventive step (IS)	Claims	10, 13-19	YES
	Claims	1-9, 11, 12	NO
Industrial applicability (IA)	Claims	1-19	YES
	Claims		NO

2. Citations and explanations:

Reference is made to the following documents:

D1: DE 198 37 333 A1 (ROBERT BOSCH GMBH) 24 February
2000 (2000-02-24)

D2: DE 100 05 015 A1 (ROBERT BOSCH GMBH) 9 August 2001
(2001-08-09)

D3: DE 101 44 342 A1 (KELSEY-HAYES CO., LIVONIA) 21
March 2002 (2002-03-21)

D4: WO 99/15781 A (CATERPILLAR INC) 1 April 1999
(1999-04-01)

The present application does not meet the requirements of
PCT Article 33(1) because the subject matter of claim 1
does not involve an inventive step under PCT Article
33(3).

D1 is considered the closest prior art to the subject
matter of claim 1. It discloses (cf. entire document):

a pump/nozzle unit for an internal combustion engine
having a pump element (10), which pump element (10) has a
pump space (9), and having a solenoid valve (4), which
solenoid valve (4) has a valve member (11) and an

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
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armature and which solenoid valve (4) opens or closes a hydraulic connection (26a) between the pump space (9) and a low pressure region (26b).

The subject matter of claim 1 therefore differs from the known pump/nozzle element in that the armature is fixedly connected to the valve member.

The problem addressed by the present invention can therefore be considered that of preventing rebound of the valve member. Said object is achieved by means of the abovementioned distinguishing features.

With regard to said feature, D2 (column 2, lines 36 to 39) describes the same advantages as the present application. A person skilled in the art would therefore consider the inclusion of this feature in the valve member described in D1 to be a routine design measure for solving the problem of interest.

Dependent claims 2-9, 11 and 12 do not contain any features which meet the PCT requirements for inventive step, see D1, D2, D3 and D4 and the corresponding text passages specified in the search report.

Claim 14 does not meet the requirements of PCT Article 6 because the subject matter for which protection is sought is not clearly defined. The claim attempts to define the subject matter in terms of the result to be achieved, but in so doing merely states the problem to be solved, without specifying the features necessary for achieving this result.

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Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
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The combination of features contained in dependent claim
10 is neither known from nor suggested by the available
prior art.

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INTERNATIONAL SEARCHING AUTHORITY

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Date of mailing (day/month/year) **See form PCT/ISA/210**

Applicant's or agent's file reference
307421

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2005/050210

International filing date (day/month/year)
19.01.2005

Priority date (day/month/year)
30.03.2004

International Patent Classification (IPC) or both national classification and IPC
F02M57/02, F02M59/46, F02M59/36, F02M51/06, F02M61/16, F16K31/06

Applicant
ROBERT BOSCH GMBH

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- | | | |
|-------------------------------------|--------------|--|
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table(s) related to the sequence listing

- b. format of material

☐

in written format

☐

in computer readable form

- c. time of filing/furnishing

☐

contained in the international application as filed.

☐

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☐

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International application No.

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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Novelty (N)

Claims 1-19

YES

Claims

NO

Inventive step (IS)

Claims 10, 13-19

YES

Claims 1-9, 11, 12

NO

Industrial applicability (IA)

Claims 1-19

YES

Claims

NO

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a pump/nozzle unit for an internal combustion engine having a pump element (10), which pump element (10) has a pump space (9), and having a solenoid valve (4), which solenoid valve (4) has a valve member (11) and an

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